



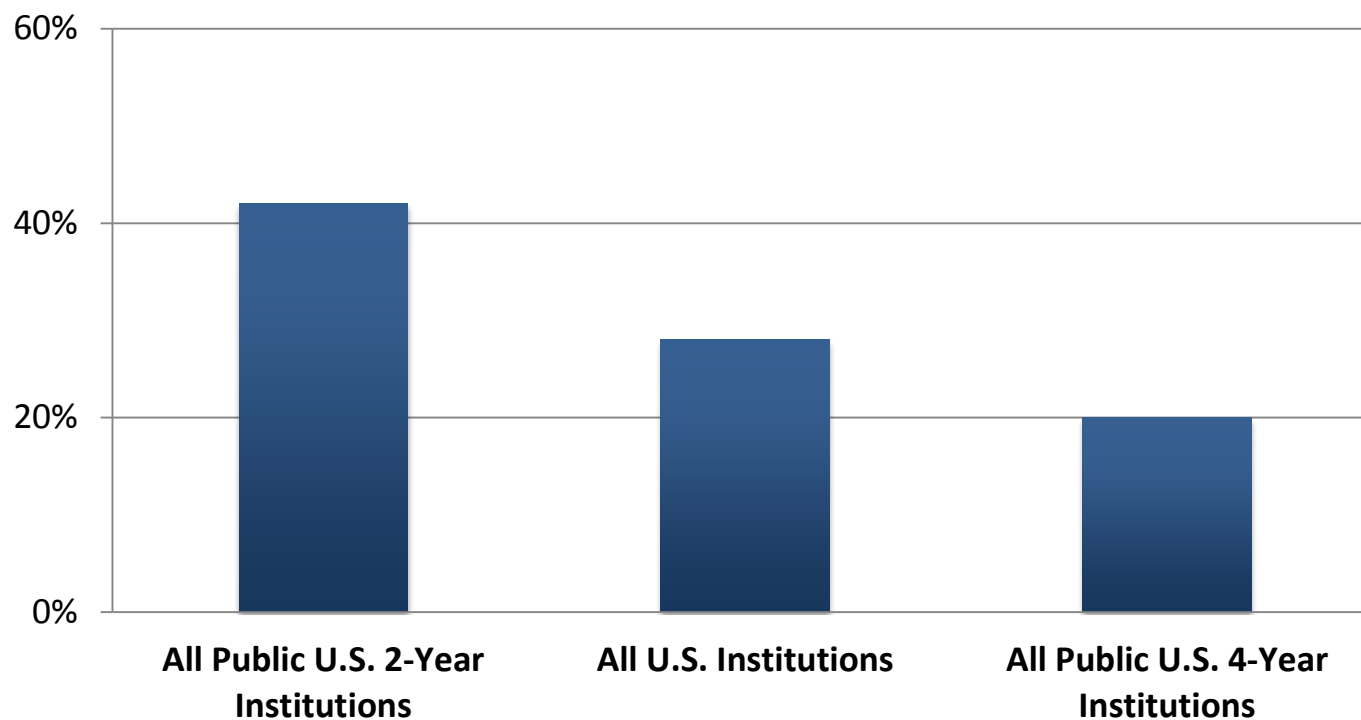
NAEP
12th GRADE
PREPAREDNESS
COMMISSION

The Nation's Report Card and 12th Grade Academic Preparedness

July 9, 2013 | Washington, D.C.

Many High School Graduates Are Not Prepared for Entry-Level College Courses

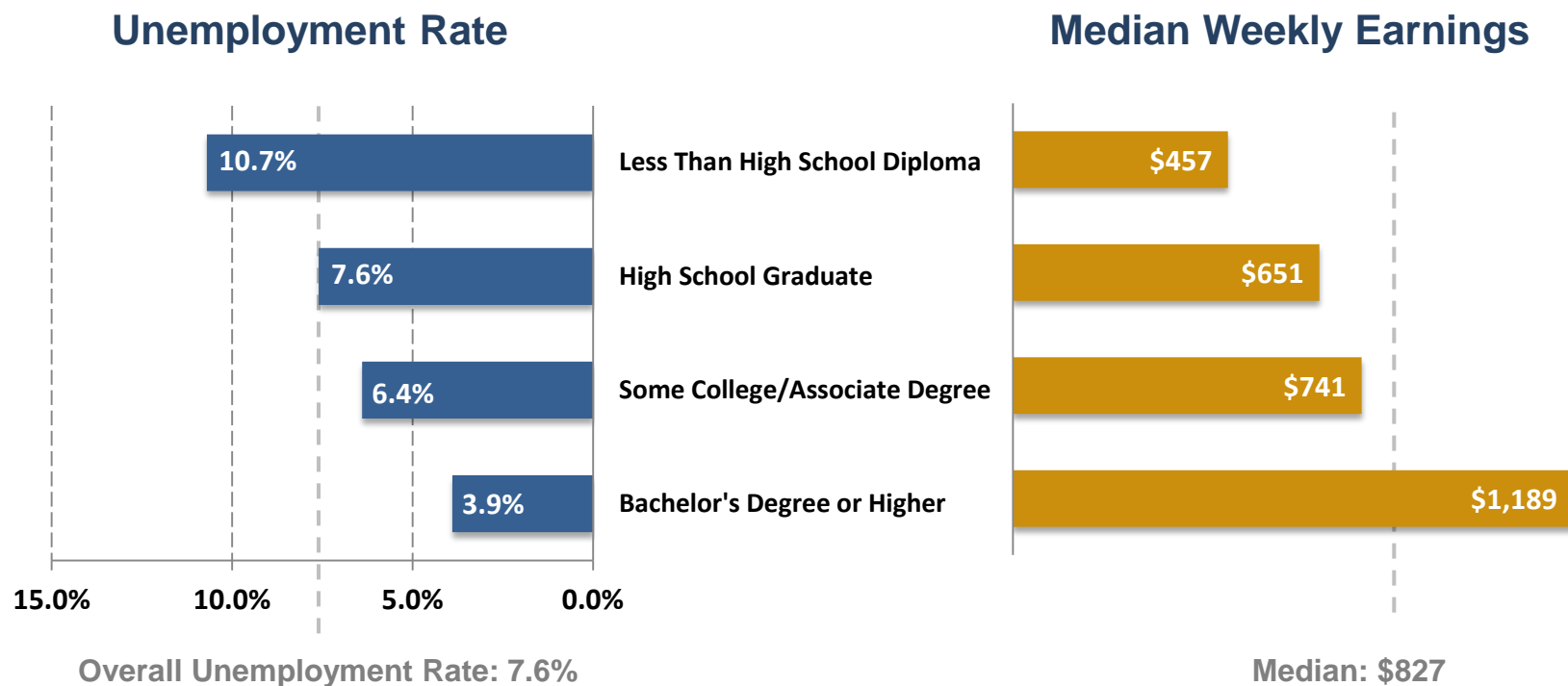
**Percentage of Freshman College Students
Taking Any Remedial Course**
(reading, writing, mathematics)



Source: NCES, 2004

- ★ **The costs of remediation are high and far-reaching.**
- ★ **A high school diploma and academic preparedness are not necessarily the same.**

Education Level Is Related to Employment and Earnings



Source: U.S. Department of Labor, Bureau of Labor Statistics, June 2013/first quarter 2013

Our Global Competitiveness Hinges on Our Graduates' Academic Preparedness

“Because other nations have... the competitive advantage of a low wage structure, the United States must compete by optimizing its knowledge-based resources, particularly in science and technology...”

– National Academy of Sciences, “Rising Above the Gathering Storm”

Changes in demography and labor market



**Need to close gaps and achieve
high levels of academic preparedness**

What We Know, What We Don't Know

What We Know:



On a daily basis we know:

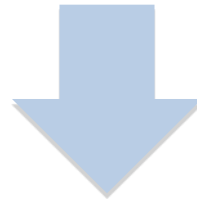
- ★ The changes on the stock market
- ★ The number of bushels of wheat produced
- ★ The price of gold

What We Know, What We Don't Know

What We Don't Know:

Are the nation's 12th graders well-prepared academically for college and job training?

The U.S. has no common definition or measure of 12th-grade preparedness.



Governing Board program of research:

Transform 12th-grade NAEP into indicator of preparedness for postsecondary education and training

The Governing Board's Work on Preparedness: Underway for More Than a Decade



The Governing Board's approach: rigorous, comprehensive, and methodical in making NAEP a preparedness indicator

The Governing Board's Preparedness Research

Stipulations

- ★ Postsecondary education and training in the U.S. is a complex enterprise of independent institutions and organizations, public, private, and proprietary.
- ★ Across and within institutions, different admission requirements and different policies used for placing individual students into courses and majors.
- ★ There is no single, generally accepted definition of “academic preparedness for college” or for “job training” in the U.S.
- ★ Therefore, a working definition was needed to design/conduct the NAEP research.
- ★ *Did not assume:* Academic skills for college and for job training necessarily the same.
- ★ *Did assume:* Education systems intend all H.S. students to graduate able to pursue the path they choose, whether college or job training.

A Comprehensive Plan: More Than 30 Studies in Five Research Areas

Study Types	Questions
Content Comparison	Is the content of NAEP similar to relevant tests?
Statistical Relationships	How does performance on NAEP compare to performance on other relevant tests?
Judgmental Standard Setting	What is the point on the NAEP scale that experts judge as <i>just</i> “academically prepared”?
Survey of Postsecondary Institutions	What are the tests and cut-scores used for placement?
Benchmarking	How do selected reference groups perform on NAEP?

➤ Research Results Are Promising ◀

Academic Preparedness Definition for College

The knowledge and skills to **qualify for placement** into entry-level, credit-bearing college courses **without need for remediation** in math or reading

- ★ **“Preparedness”** versus **“readiness”** – NAEP measures *academic* proficiency
- ★ Qualify for placement
- ★ No assumption of success or completion
- ★ Placement vs. admissions
- ★ “Typical” student in “typical” college

Content Comparisons: College

ACT, SAT, ACCUPLACER

- ★ NAEP content is similar to the ACT, SAT, and ACCUPLACER.
- ★ ACT, SAT, and ACCUPLACER content is generally covered by NAEP.
- ★ NAEP is generally broader.
- ★ NAEP differs in some ways:
 - Types of test questions
 - Cognitive rigor of test questions
 - Types of reading texts
 - Weighting and coverage of specific content in mathematics

Statistical Comparisons: College

NAEP/SAT 2009

- ★ NAEP and SAT = **.91** correlation
- ★ NAEP and SAT Reading = **.74** correlation
- ★ Proficient on NAEP \approx 500 on SAT Reading and Math \approx College Board Readiness Benchmark

NAEP High School Transcript Study 2005/2009

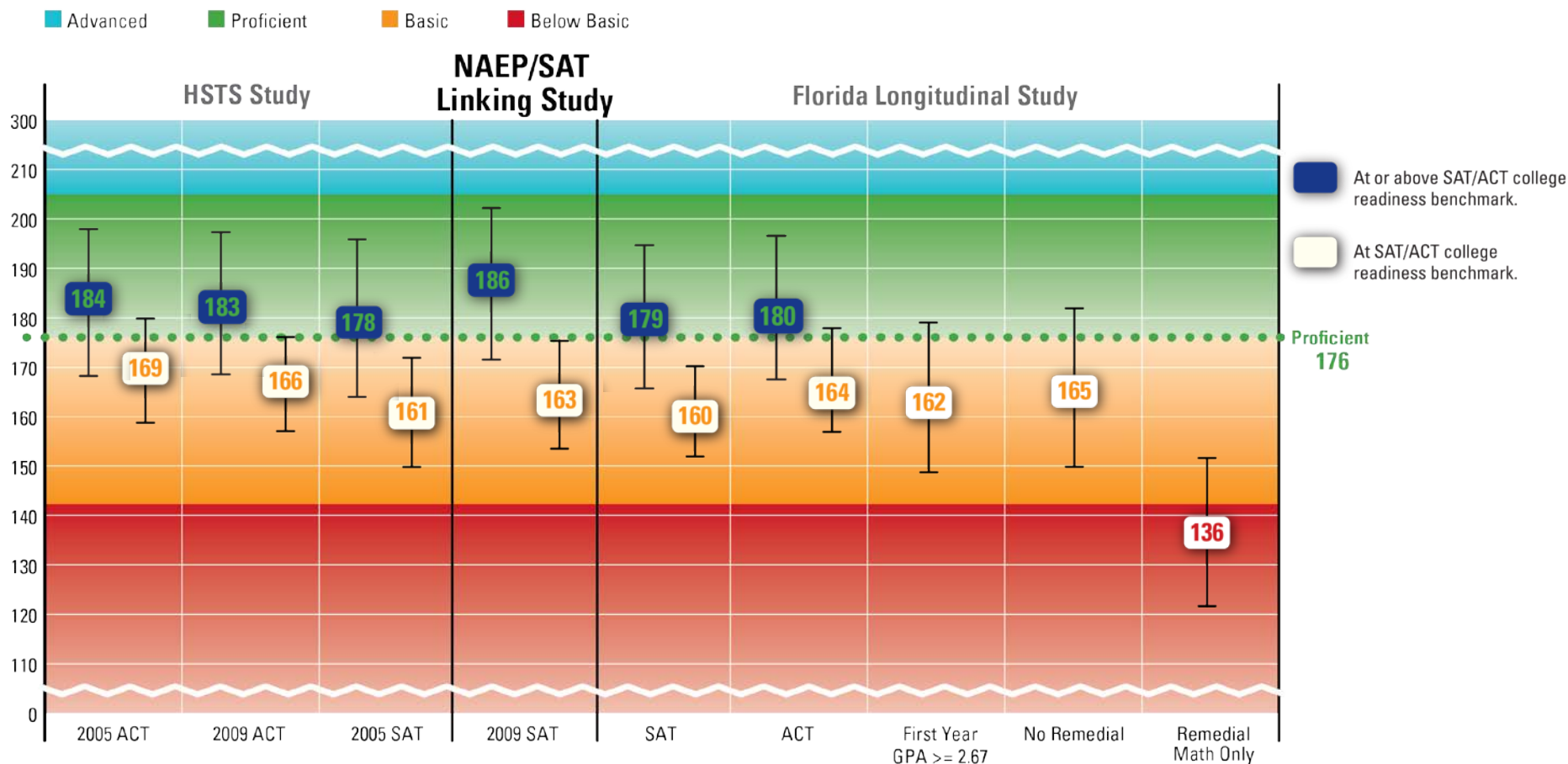
- ★ NAEP to ACT and SAT results confirm NAEP/SAT linking study

Florida study confirms NAEP/SAT linking and HSTS

- ★ First-year college GPA
- ★ Placement into remedial/developmental
- ★ ACT and SAT college readiness benchmarks

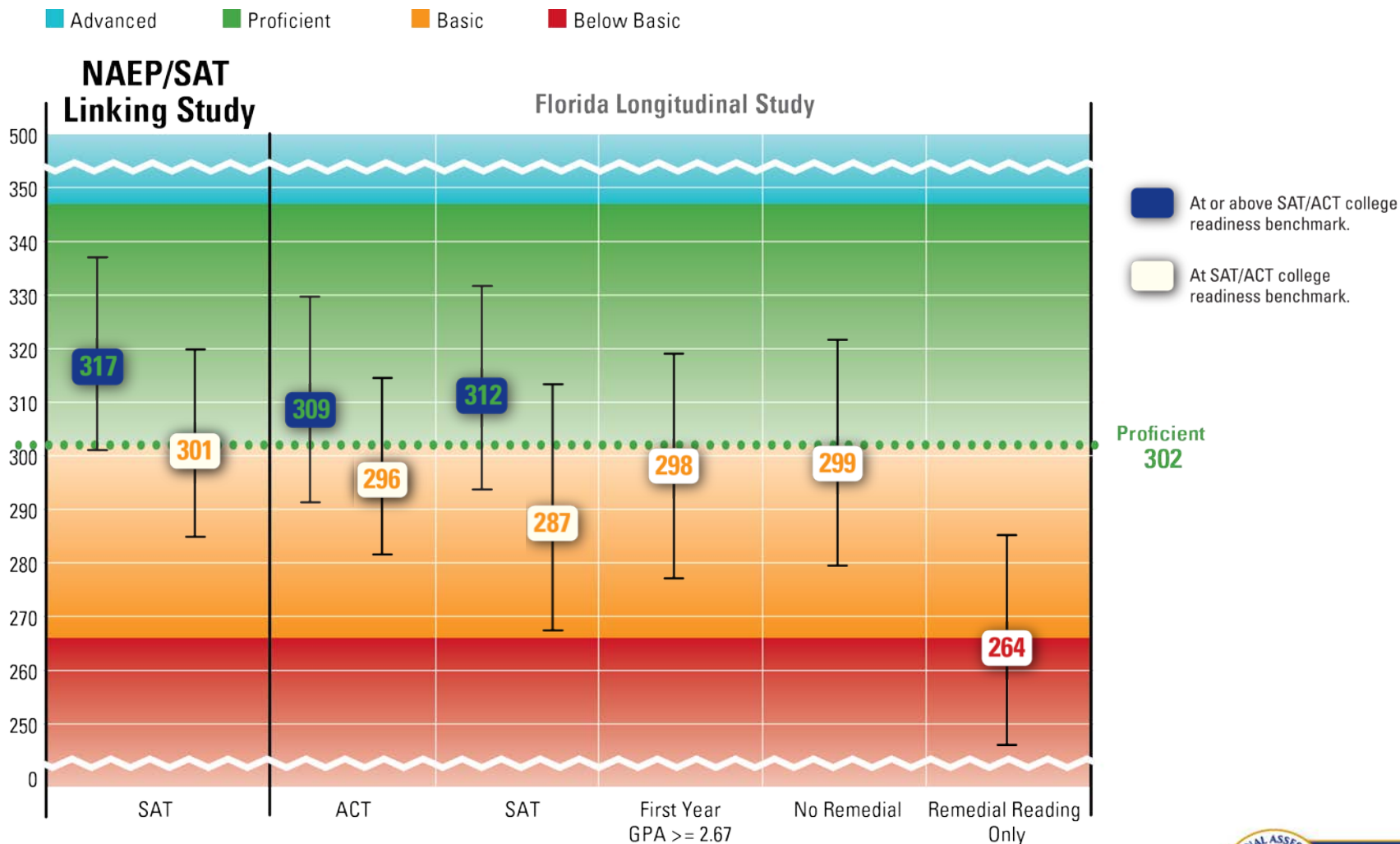
NAEP 12th-Grade Preparedness Research: Mathematics

Average Scores and Inter-quartile Ranges for Selected Variables, SAT and ACT College Readiness Benchmarks From the 2009 NAEP/SAT Linking Study, 2005 High School Transcript Study, 2009 High School Transcript Study, and 2009 Florida Longitudinal Study



NAEP 12th-Grade Preparedness Research: Reading

Average Scores and Inter-quartile Ranges for Selected Variables, SAT and ACT College Readiness Benchmarks
From the 2009 NAEP/SAT Linking Study and 2009 Florida Longitudinal Study



Academic Preparedness for College: Key Takeaways

- ★ Content comparisons confirm appropriateness of revised reading and mathematics frameworks
- ★ Statistical comparisons confirmatory and consistent across studies and years
- ★ Students scoring at or above *Proficient* likely to be academically prepared, but...
- ★ Results are different for reading and math in relation to *Proficient* and interpretations/implications for reporting need to be considered

Academic Preparedness Definition for Job Training

The knowledge and skills to **qualify for placement** into job training **without need for remediation** in math or reading

- ★ **“Preparedness”** versus **“readiness”** – NAEP measures *academic* proficiency
- ★ *Goal:* identify prerequisite KSAs and reference point on NAEP scales
- ★ **“Job training”** versus **“career”**
- ★ *Assumption:* significant training beyond high school but not B.A.
- ★ No assumption of success or completion
- ★ No assumption academic skills for college and job training necessarily the same

Content Comparisons: Job Training

WorkKeys

- ★ Some NAEP content is similar to WorkKeys.
- ★ WorkKeys measures some content that NAEP does not.
- ★ NAEP is broader.
- ★ WorkKeys Applied Mathematics and Reading for Information focus on the application of foundational skills in workplace situations and NAEP does not.
- ★ NAEP does not have workplace situations as its primary focus.

Standard Setting: Job Training

Ten studies in five job training programs

Programs included

- ★ Automotive Master Mechanic
- ★ Computer Support Specialist
- ★ HVAC Technician
- ★ Licensed Practical Nurse
- ★ Pharmacy Technician

Criteria for selection

- ★ Significant numbers, stable or growing positions
- ★ Range of occupations, civilian and military comparability
- ★ Training beyond high school, not bachelor's degree
- ★ Range of reading and math skills
- ★ Compensation with growth potential
- ★ Familiar to public

Standard Setting: Job Training

Study results

- ★ Results not confirmed by the replicate panels/other research results
- ★ Panelists deemed many NAEP 12th-grade items not required for determining academic preparedness for their job training programs
- ★ Findings do not support conclusion that academic preparedness for these job training programs is same as for college
- ★ Results suggest a need for closer look at course content requirements

Course Content Analysis: Job Training

Study results

- ★ Large study analyzing course materials from 122 institutions – 85 courses for mathematics content and 80 courses for reading content
- ★ Prerequisite KSAs are largely included in the grade 12 NAEP frameworks, but NAEP frameworks are much larger and broader
- ★ Most course prerequisites are measured by NAEP, but represent a mostly small, varying portion of the framework objectives
 - Between 64% and 77% of the 130 mathematics objectives **NOT evident** as prerequisite in any course examined within the five occupations
 - Between 16% and 68% of the 37 reading objectives **NOT evident** as prerequisite in any course examined within the five occupations

Academic Preparedness for Job Training: Key Takeaways

- ★ Content comparison, standard setting, and course content studies suggest:
 - Prerequisite KSAs are largely included in NAEP frameworks, but NAEP frameworks are much larger and broader
 - Most prerequisite KSAs are measured by NAEP, but represent a varying portion of the objectives
- ★ No evidence that academic preparedness for job training = college
- ★ However, students prepared for college likely to be academically prepared for these job training programs
- ★ Designing studies for academic preparedness for job training is especially challenging

Other Research

Course Content Analysis: First Year College Courses

- ★ Review of course syllabi and textbooks for reading and math demands

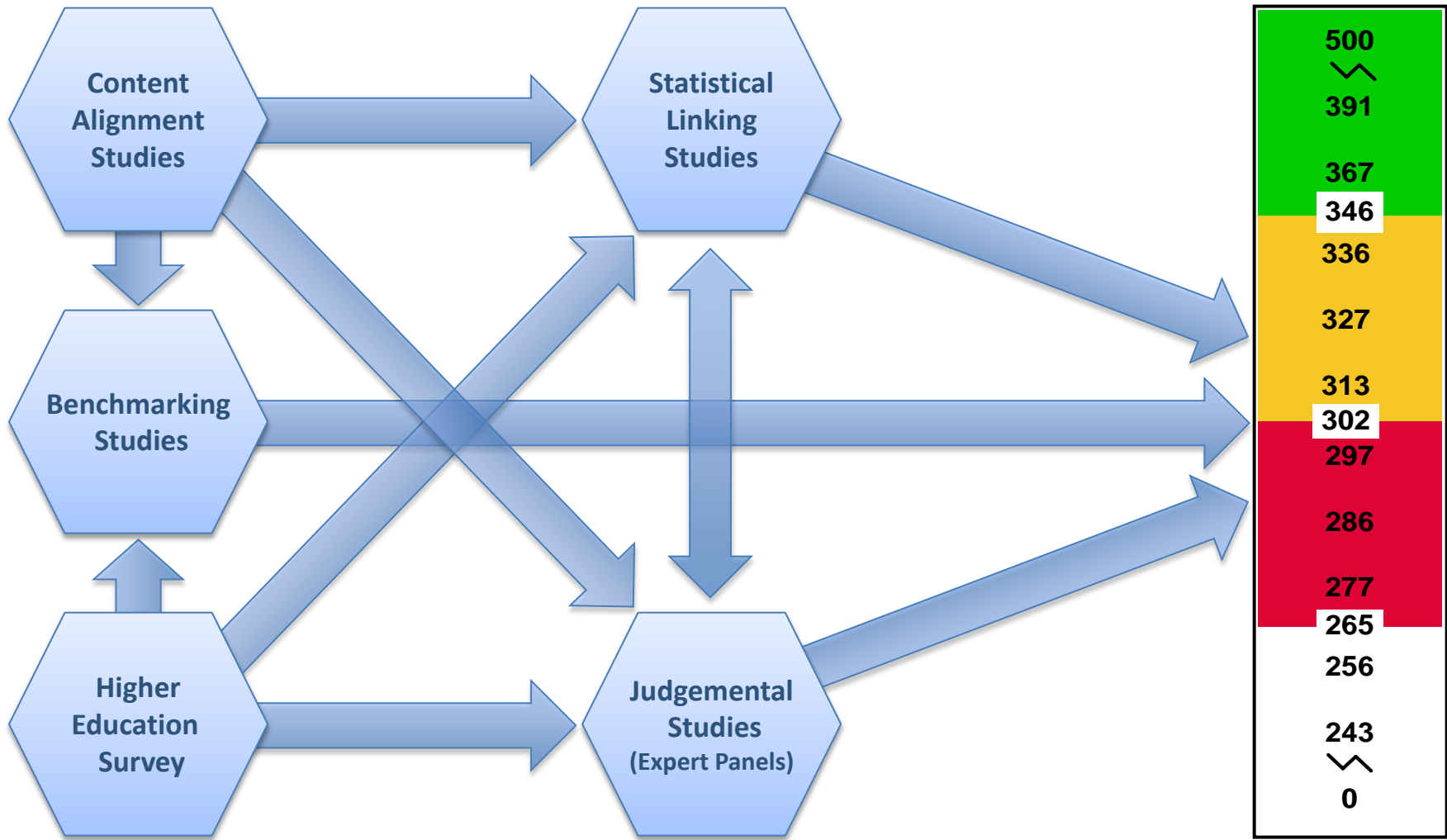
Benchmarking

- ★ Texas postsecondary pilot study
- ★ Seeking partners for collaboration—job training, military, higher ed., etc.

Higher Education Survey

- ★ Tests and cut scores used to determine need for remedial in college
- ★ Only extant nationally representative survey
- ★ Results confirm statistical relationship studies
- ★ Results show variability in cut scores for “needs remedial”

Study Interrelationships



Next Steps

- ★ Review findings with technical experts
- ★ Receive comments: symposium/other stakeholders
- ★ Governing Board consideration (August 2013 meeting) on reporting 12th-grade results in terms of preparedness
- ★ Planning research for 2013–2015:
 - ✧ SAT and ACT linking studies
 - ✧ State partners (Fla., Ill., Mass., Mich., Tenn.)
 - ✧ 8th grade EXPLORE (Ky., Tenn.)

View the Report

www.nagb.org/what-we-do/preparedness-research.html



The screenshot displays the website of the National Assessment Governing Board (NAGB). The header features the NAGB logo and navigation links for Home, About, and Contact. The main content area is titled "TECHNICAL REPORT: NAEP 12th Grade Preparedness Research". Below this, a section titled "Types of Research" lists five categories in blue circles: Content Alignment, Statistical Relationships, Higher Ed Survey, Judgmental Standard Setting, and Benchmarking. The "Introduction" section begins with the text: "Grade 12 is a critical transition point for American students. After graduates leave high school, they may enter college, training, or work, but many find their next steps difficult, as measured by high college remediation and dropout rates, and unemployment." The text continues with a quote: "become productive citizens and compete in a global economy....Only the National Assessment of Educational Progress can provide this information—for the nation and states—and it is necessary for our nation's continued well-being that it be provided." The final sentence states: "In 2006, with this goal in mind, the Board approved changes in 12th grade

For More Information...

- ★ **National Assessment Governing Board:**
www.nagb.org
- ★ **Preparedness Research and Resources:**
www.nagb.org/commission/researchandresources.html